

Application Number 10/696,491  
Amendment responsive to Office Action mailed January 30, 2008

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**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

Claim 1 (Currently Amended): A method comprising:

sequentially displaying a plurality of two-dimensional body templates, each of the body templates illustrating a view of an external surface of a human body rotated an angle about an axis;

receiving input from a user indicating a region of one of the body templates;

mapping the input to a body surface coordinate system that describes a plurality of points on the external surface of the human body;

regenerating the body template to illustrate the indicated region on the template based on the body surface coordinate system with the mapped input; and

displaying the regenerated body template.

Claim 2 (Original): The method of claim 1, wherein the plurality of body templates comprises a front view template and a back view template.

Claim 3 (Original): The method of claim 1, wherein the plurality of body templates comprises a front view template, a right-side view template, a back view template, and a left-side view template.

Application Number 10/696,491  
Amendment responsive to Office Action mailed January 30, 2008

Claim 4 (Currently Amended): The method of claim 1, wherein the regenerated body template is a first one of the body templates that illustrates a portion of the surface, the method further comprising:

generating a second one of the body templates to illustrate at least some of the portion of the surface illustrated by the first one of the body templates and at least a portion of the region indicated by the user based on the body surface coordinate system with the mapped input; and displaying the second one of the body templates.

Claim 5 (Original): The method of claim 1, wherein sequentially displaying the body templates comprises sequentially displaying the body templates according to commands received from a user.

Claim 6 (Previously Presented): The method of claim 5, wherein sequentially displaying the body templates according to commands received from a user comprises displaying the body templates according to commands received via at least one direction arrow.

Claim 7 (Previously Presented): The method of claim 5, wherein sequentially displaying the body templates according to commands received from a user comprises:

displaying a first one of body templates;  
receiving a command from the user;  
generating a second one of the body templates in response to the command; and  
displaying the second one of the body templates.

Claim 8 (Cancelled).

Claim 9 (Previously Presented): The method of claim 1, wherein sequentially displaying the body templates comprises sequentially displaying the body templates via a display, and receiving input from a user comprises receiving input from the user via the display.

Application Number 10/696,491

Amendment responsive to Office Action mailed January 30, 2008

Claim 10 (Previously Presented): The method of claim 1, wherein sequentially displaying the body templates comprises:

displaying a first one of the body templates;

generating a second one of the body templates to illustrate a view of the external surface of the human body, wherein the angle of rotation of the surface about the axis is based on the proximity of the received body region indication to an edge of the first one of the body templates; and

displaying the second one of the body templates.

Claim 11 (Previously Presented): The method of claim 1, wherein the input comprises a two-dimensional polygon outline of the indicated region.

Claim 12 (Cancelled):

Claim 13 (Currently Amended): The method of claim ~~12~~ 1, further comprising generating each of the body templates based on the body surface coordinate system.

Claim 14 (Currently Amended): The method of claim ~~12~~ 1, wherein the body surface coordinate system comprises a three-dimensional coordinate system.

Claim 15 (Previously Presented): The method of claim 14, further comprising generating the three-dimensional coordinate system by applying one of a linear interpolation, a higher-order interpolation, or a spline technique to determine valid body coordinates.

Claim 16 (Original): The method of claim 14, wherein mapping the input into a three-dimensional body surface coordinate system comprises assigning a third coordinate to each point of the indicated region of the body template.

Claim 17 (Currently Amended): The method of claim ~~12~~ 1, wherein the body surface coordinate system comprises a two-dimensional coordinate system.

Application Number 10/696,491  
Amendment responsive to Office Action mailed January 30, 2008

Claim 18 (Original): The method of claim 17, further comprising generating the two-dimensional coordinate system by mathematically peeling and flattening a representation of the external surface of the human body, and indicating continuity at edges of the body surface.

Claim 19 (Original): The method of claim 17, wherein displaying the regenerated body template comprises projecting the two-dimensional coordinate system onto a three-dimensional frame representation of the external surface of the human body.

Claim 20 (Cancelled).

Claim 21 (Previously Presented): The method of claim 1, wherein regenerating the one of the body templates to illustrate the indicated region on the template comprises regenerating the one of the body templates to include shading of the indicated region on the template.

Claim 22 (Previously Presented): The method of claim 1, wherein the body region indication indicates a region of at least one of pain or paresthesia experienced by a patient.

Claim 23 (Previously Presented): The method of claim 1, wherein the user comprises one of a patient or a clinician.

Claim 24 (Previously Presented): The method of claim 1, wherein the axis comprises a vertical axis through a center of the body.

Claim 25 (Original): The method of claim 1, wherein each of the body templates illustrates a view of the external surface of the human body rotated an angle about at least one of a plurality of axes.

Application Number 10/696,491

Amendment responsive to Office Action mailed January 30, 2008

**Claim 26 (Currently Amended):** A computer-readable storage medium comprising instructions that cause a programmable processor to:

sequentially display a plurality of two-dimensional body templates, each of the body templates illustrating a view of an external surface of a human body rotated an angle about an axis;

receive input from a user indicating a region of one of the body templates;

map the input to a body surface coordinate system that describes a plurality of points on the external surface of the human body;

regenerate the one of the body templates to illustrate the indicated region on the template based on the body surface coordinate system with the mapped input; and

display the regenerated body template.

**Claim 27 (Previously Presented):** The computer-readable storage medium of claim 26, wherein the plurality of body templates comprises a front view template and a back view template.

**Claim 28 (Previously Presented):** The computer-readable storage medium of claim 26, wherein the plurality of body templates comprises a front view template, a right-side view template, a back view template, and a left-side view template.

**Claim 29 (Currently Amended):** The computer-readable storage medium of claim 26, wherein the regenerated body template is a first one of the body templates that illustrates a portion of the surface, the computer-readable medium further comprising instructions that cause a programmable processor to:

generate a second one of the body templates to illustrate at least some of the portion of the surface illustrated by the first one of the body templates and at least a portion of the region indicated by the user based on the body surface coordinate system with the mapped input; and

display the second one of the body templates.

Application Number 10/696,491  
Amendment responsive to Office Action mailed January 30, 2008

**Claim 30 (Previously Presented):** The computer-readable storage medium of claim 26, wherein the instructions that cause a programmable processor to sequentially display the body templates comprise instructions that cause a programmable processor to display the body templates according to commands received from a user.

**Claim 31 (Previously Presented):** The computer-readable storage medium of claim 30, wherein the instructions that cause a programmable processor to sequentially display the body templates according to commands received from a user comprise instructions that cause a programmable processor to display the body templates according to commands received via at least one direction arrow.

**Claim 32 (Previously Presented):** The computer-readable storage medium of claim 30, wherein the instructions that cause a programmable processor to sequentially display the body templates according to commands received from a user comprise instructions that cause a programmable processor to:

- display a first one of the body templates;
- receive a command from the user;
- generate a second one of the body templates according to the command; and
- display the second one of the body templates.

**Claim 33 (Cancelled).**

**Claim 34 (Previously Presented):** The computer-readable storage medium of claim 26, wherein the instructions that cause a programmable processor to sequentially display the body templates and receive input from a user comprise instructions that cause a programmable processor to sequentially display the body templates and receive the input via a display.

Application Number 10/696,491

Amendment responsive to Office Action mailed January 30, 2008

Claim 35 (Previously Presented): The computer-readable storage medium of claim 26, wherein the instructions that cause a programmable processor to sequentially display the body templates comprise instructions that cause a programmable processor to:

display a first one of the body templates;

generate a second one of the body templates to illustrate a view of the external surface of the human body, wherein the angle of rotation of the surface about the axis is based on the proximity of the received body region indication to an edge of the first one of the body templates; and

display the second one of the body templates.

Claim 36 (Previously Presented): The computer-readable storage medium of claim 26, wherein the input comprises a two-dimensional polygon outline of the indicated region.

Claim 37 (Cancelled):

Claim 38 (Currently Amended): The computer-readable storage medium of claim ~~37~~ 26, further comprising instructions that cause a programmable processor to generate each of the body templates based on the body surface coordinate system.

Claim 39 (Currently Amended): The computer-readable storage medium of claim ~~37~~ 26, wherein the body surface coordinate system comprises a three-dimensional coordinate system.

Claim 40 (Previously Presented): The computer-readable storage medium of claim 39, further comprising instructions that cause a programmable processor to generate the three-dimensional coordinate system by applying one of a linear interpolation, a higher-order interpolation, or a spline technique to determine valid body coordinates.

Application Number 10/696,491  
Amendment responsive to Office Action mailed January 30, 2008

Claim 41 (Currently Amended): The computer-readable storage medium of claim ~~37~~ 26, wherein the instructions that cause a programmable processor to map the input into a three-dimensional body surface coordinate system comprise instructions that cause a programmable processor to assign a third coordinate to each point of the indicated region of the body template.

Claim 42 (Currently Amended): The computer-readable storage medium of claim ~~37~~ 26, wherein the body surface coordinate system comprises a two-dimensional coordinate system.

Claim 43 (Previously Presented): The computer-readable storage medium of claim 42, further comprising instructions that cause a programmable processor to generate the two-dimensional coordinate system by mathematically peeling and flattening a representation of the external surface of the human body, and indicating continuity at edges of the body surface.

Claim 44 (Previously Presented): The computer-readable storage medium of claim 42, wherein the instructions that cause a programmable processor to display the regenerated body template comprise instructions that cause a programmable processor to project the two-dimensional coordinate system onto a three-dimensional frame representation of the external surface of the human body.

Claim 45 (Cancelled).

Claim 46 (Previously Presented): The computer-readable storage medium of claim 26, wherein the instructions that cause a programmable processor to regenerate the one of the body templates to illustrate the indicated region on the template comprise instructions that cause a programmable processor to regenerate the one of the body templates to include shading of the indicated region on the template.

Claim 47 (Cancelled).



Application Number 10/696,491  
Amendment responsive to Office Action mailed January 30, 2008

Claim 48 (Previously Presented): The computer-readable storage medium of claim 26, wherein the axis comprises a vertical axis through a center of the body.

Claim 49 (Previously Presented): The computer-readable storage medium of claim 26, wherein each of the body templates illustrates a view of the external surface of the human body rotated an angle about at least one of a plurality of axes.

Claim 50 (Currently Amended): A device comprising:

a display;

a memory that stores a body surface coordinate system that describes a plurality of points on an external surface of a human body; and

a processor to sequentially display a plurality of two-dimensional body templates via the display, each of the body templates illustrating a view of ~~an~~ the external surface of a ~~the~~ human body rotated an angle about an axis, receive input from a user indicating a region of one of the body templates, map the input to the body surface coordinate system, regenerate the body template to illustrate the indicated region on the template based on the body surface coordinate system with the mapped input, and display the regenerated body template via the display.

Claim 51 (Original): The device of claim 50, wherein the plurality of body templates comprises a front view template and a back view template.

Claim 52 (Original): The device of claim 50, wherein the plurality of body templates comprises a front view template, a right-side view template, a back view template, and a left-side view template.

Application Number 10/696,491

Amendment responsive to Office Action mailed January 30, 2008

Claim 53 (Currently Amended): The device of claim 50,  
wherein the regenerated body template is a first one of the body templates that illustrates a portion of the surface, and

wherein the processor generates a second one of the body templates to illustrate at least some of the portion of the surface illustrated by the first one of the body templates and at least a portion of the region indicated by the user based on the body surface coordinate system with the mapped input, and displays the second one of the body templates via the display.

Claim 54 (Original): The device of claim 50, further comprising a user input circuit, wherein the processor receives commands from a user via the user input circuit, and sequentially displays the body templates via the display according to the commands.

Claim 55 (Original): The device of claim 54, wherein the display comprises the user input circuit, and the processor receives the commands from the user via the display.

Claim 56 (Previously Presented): The device of claim 54, wherein the processor displays at least one rotation direction arrow via the display for receiving the commands from the user.

Claim 57 (Cancelled).

Claim 58 (Previously Presented): The device of claim 50,  
wherein the one of the body templates comprises a first one of the body templates, and  
wherein the processor generates a second one of the body templates to illustrate a view of the external surface of the human body, the angle of rotation of the surface about the axis for the second one of the body templates based on the proximity of the received body region indication to an edge of the first one of the body templates, and displays the second one of the body templates via the display.

Claim 59 (Cancelled).

Application Number 10/696,491

Amendment responsive to Office Action mailed January 30, 2008

Claim 60 (Currently Amended): The device of claim ~~59~~ 50, wherein the processor generates each of the body templates based on the body surface coordinate system.

Claim 61 (Currently Amended): The device of claim ~~59~~ 50, wherein the body surface coordinate system comprises a three-dimensional coordinate system.

Claim 62 (Previously Presented): The device of claim 61, wherein the processor generates the three-dimensional coordinate system by applying one of a linear interpolation, a higher-order interpolation, or a spline technique to determine valid body coordinates.

Claim 63 (Currently Amended): The device of claim ~~59~~ 50, wherein the body surface coordinate system comprises a two-dimensional coordinate system.

Claim 64 (Original): The device of claim 63, wherein the processor generates the two-dimensional coordinate system by mathematically peeling and flattening a representation of the external surface of the human body, and indicating continuity at edges of the body surface.

Claim 65 (Original): The device of claim 63, wherein the processor displays one of the body templates by projecting the two-dimensional coordinate system onto a three-dimensional frame representation of the external surface of the human body.

Claim 66 (Cancelled).

Claim 67 (Previously Presented): The device of claim ~~50~~, wherein the display comprises the user input circuit, and the processor receives the input via the display.

Claim 68 (Original): The device of claim 67, wherein the user interacts with the display using a stylus.

Claim 69 (Cancelled).

Application Number 10/696,491

Amendment responsive to Office Action mailed January 30, 2008

**Claim 70 (Original):** The device of claim 50, wherein the device comprises a programming device to program a neurostimulation therapy device that provides electrical stimulation to a patient.

**Claim 71 (Original):** The device of claim 50, wherein the device comprises a handheld computing device.

**Claims 72-123 (Cancelled).**